

ABSTRACT OF THE DISCLOSURE

A magnetic levitation rotating machine is provided which can stably detect the displacement and rotating speed of a rotator and, at the same time, can reduce the size of the whole apparatus, that is, can render the whole apparatus compact. The magnetic levitation rotating machine for supporting a rotator in a levitated state by magnetic force of an electromagnet or a permanent magnet comprises: a position detection plane provided in the rotator and a concave and/or a convex provided in the plane; a displacement sensor provided on the fixed side, for detecting the displacement of the plane including the concave or the convex; and a detection mechanism for detecting the displacement of the rotator and the rotating speed of the rotator from the output of the displacement sensor.